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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,177	11/17/2003	Roisin A. Armstrong	1/1345	4041

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EXAMINER	
KANTAMNENI, SHOBHA	
ART UNIT	PAPER NUMBER
1617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/715,177	ARMSTRONG ET AL.	
	Examiner	Art Unit	
	Shobha Kantamneni	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 20-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *NONE* is/are allowed.

6)☒ Claim(s) *1-10,20-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's amendment filed on 12/17/2007, wherein claims 1, 3, 4, 5, 6, 9, 10, 21-22, 27-29, and 33 have been amended.

Applicant's amendment overcomes the objection made to claims 5, and 33 because of the minor informalities.

Applicant's amendment overcomes the rejection of claims 1-10, and 20-34 under 35 U.S.C. 112, second paragraph, as being indefinite.

Applicant's arguments have been considered, but not found persuasive. The rejection of claims 1-10, and 20-34 under 35 U.S.C. 103(a) as being unpatentable over Duplantier et al. (US 6,004,974, PTO-1449), in view of Barnes (Am J Respir Crit Care Med, Vol 160, ppS72-S79, 1999, PTO-1449) is MAINTAINED. See under response to arguments.

Claims 1-10, 20-34 are examined herein as they read on the elected invention.

Claim Rejections - 35 USC § 112

Written Description:

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6, 9, 20-23, 29-30, and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The instant claims recite hydrates and solvates of tiotropium. Applicant's specification does not provide support for the recitation “hydrates and solvates of tiotropium”. Accordingly, the claimed subject matter has not been described in such a way as to reasonably convey to one skilled in the relevant art that the inventors at the time the application was filed were actually in possession of such as compound having the dual activity, and thus the claim fails to meet the written description requirement under 35 U.S.C. 112, first paragraph.

Response to Arguments

Applicant’s arguments that the amended claims "clarify that the hydrates and solvates are separate embodiments in the Markush group, not a "dual activity" group” have been considered, but not found persuasive. It is pointed that Applicant's specification does not provide support for the recitation “hydrates and solvates of tiotropium”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10, and 20-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duplantier et al. (US 6,004,974, PTO-1449), in view of Barnes (Am J Respir Crit Care Med, Vol 160, ppS72-S79, 1999, PTO-1449).

Duplantier et al. disclose composition comprising a PDE4 inhibitor, a compound of formula I which read on the instant PDE4 inhibitors of Formula (1.1.1) in a carrier. The compositions therein are useful in treating asthma, chronic obstructive airway diseases, and other inflammatory diseases. See abstract; column 1- column 4. It is also taught that the compositions therein can be administered in a form suitable for administration by inhalation. See column 12, lines 1-5.

Duplantier et al. do not teach anti-cholinergic agent, tiotropium bromide in the composition therein.

Duplantier et al. do not specifically teach the compositions therein in the form of an aerosol or dry powder inhaler as in claim 21, and claim 29.

Barnes teaches that anticholinergic bronchodilator, tiotropium bromide in the form of dry powder inhaler is in Phase III clinical trials for treating chronic obstructive pulmonary disease (COPD). It is also taught that PDE4 inhibitors are effective in treating COPD. See abstract; page S72.; page S76. Barnes teaches that bronchodilators are given via inhalers, either as metered dose inhalers or dry powder inhalers.

It is generally considered *prima facia* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. The idea for combining them flows logically from their having been used individually in the prior art. As shown by recited teachings of Duplantier et al. and Barnes, the instant claims contain two compositions used for treatment of chronic obstructive pulmonary disease. *In re Kerkohoven*, 626 F.2d 848, 205 USPQ 1069 (CCPA 1980).

It would have been obvious to a person of ordinary skill in the art at the time of invention to employ the compositions taught by Duplantier et al. in the form of dry powder inhaler because Barnes teaches that the compositions for treating chronic obstructive pulmonary diseases are employed in the form of inhalable dry powder in a metered dose inhaler or dry powder inhaler.

Further, the patient pack is deemed obvious since they are all within the knowledge and conventional skills of pharmacologist to conveniently assist the user and prescriber for easy dispensary of the medication and given that-compounds are taught to be effective for treating COPD. Furthermore, one of ordinary skill in the art would have been motivated to prepare a pack comprising the same composition because the preparation of a pack comprising a pharmaceutical composition is considered well in the competence level of an ordinary skilled artisan in the pharmaceutical science, involving merely routine skill in the art.

Response to Arguments

Applicant argues that "there is no support in the prior art for merely combining a composition according to Duplantier with the specific powder inhalation tiotropium bromide composition of Barnes because Duplantier discloses no particular composition for a particular use. Accordingly, the facts providing the basis for rejection in Kerkhoven, i.e., that the claims at issue are met by "mere mixing of the two [prior art] compositions," are distinct from the facts here." These arguments have been considered, but not found persuasive. Duplantier et al. clearly teaches a pharmaceutical composition comprising a PDE4 inhibitor, a compound of formula I which read on the instant PDE4 inhibitors of Formula (1.1.1) in a carrier for the treatment of asthma, chronic obstructive airway diseases, and other inflammatory diseases. See column 3, lines 53-56; column 18, claim 7. Duplantier et al. also teaches inhaler administration, wherein 0.1 to 1 % (w/v) solution is employed. Barnes teaches that anticholinergic bronchodilator, tiotropium bromide is in Phase III clinical trials for treating chronic obstructive pulmonary disease (COPD). Barnes also teaches that bronchodilators are given via inhalers, either as metered dose inhalers. Accordingly, one of ordinary skill in the art would have been motivated to combine the compositions containing a PDE4 inhibitor with a composition comprising tiotropium bromide. It is generally considered *prima facia* obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose, in order to form a composition which is used for the very same purpose. As shown by the recited teachings of Duplantier et al. and Barnes, the instant claims

contain two compositions useful for treatment of chronic obstructive pulmonary disease, and can be formulated for inhalation.

Applicant argues that "Regarding claim 20-34, an additional basis for nonobviousness is provided. Duplantier provides no suggestion of a composition of its PDE IV inhibitors in a form for inhalation administration. There is no reasoning given why one of ordinary skill in the art would provide the PDE IV inhibitors in a form for inhalation administration or that there was any reasonable basis to expect they would provide their desired activity in such form." These arguments have been considered, but not found persuasive as discussed above. Further, it is pointed out that Duplantier et al. teaches inhaler administration, wherein the composition comprises 0.1 to 1 % (w/v) solution of the PDE IV inhibitor.

Applicant's arguments with respect to the restriction requirement made on 03/13/2007, have been considered, but not found persuasive as discussed in the previous office action. It is pointed out that, the inventions can be shown to be distinct if the process for using the product as claimed can be practiced with another materially different product. (MPEP 806.05(h)). In the instant case COPD can be treated by administering salbutamol. Further, a search for the invention of the 2 groups would not be coextensive because a search indicating the process is novel or unobvious would not extend to a holding that the product itself is novel or unobvious; similarly, a search indicating that the product is known or would have been obvious would not extend to a holding that the process is known or would have been obvious. Thus, there is a clear

search, and examination burden on the office, if the restriction is not made. Therefore, restriction for examination purposes as indicated is proper.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period, will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Monday-Tuesday, Thursday-Friday, 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, Ph.D can be reached on 571-272-0629. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni, Ph.D
Patent Examiner
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/SREENI PADMANABHAN/
Supervisory Patent Examiner, Art Unit 1617